

PAGE 1 PROC14/LIB:DR0.PROCID MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
SATURDAY, AUGUST 7, 1982 -- 3:52:56 PM  
UNIVERSAL ASSEMBLER VERSION 3.1 FEBRUARY 29, 1980 (IN-HOUSE)

C O N F I D E N T I A L P R O P R I E T A R Y I N F O R M A T I O N

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COMMAND LINE WAS: SNAP3 PROC14.PROCID,.,,PROC144;GQPLX

INCLUSION A: PROCINC/TXT:DR0  
INCLUSION B: PROC14/LIB:DR0.PMACMIC  
INCLUSION C: PROC14/LIB:DR0.GMACROZ  
INCLUSION D: PROC14/LIB:DR0.PROCEQUS  
INCLUSION E: PROC14/LIB:DR0.BDEF1800  
INCLUSION F: PROC14/LIB:DR0.MDEF1800  
INCLUSION G: PROC14/LIB:DR0.PORTEQUS  
INCLUSION H: PROC14/LIB:DR0.PORTASGN  
INCLUSION I: PROC14/LIB:DR0.PROCP4

D 20.A CAPIVS EQU 0 INVERTED DISPLAY SCREEN VERSION \*\*NEW\*\*

\*\*\* ERRORS: D

PROGRAM NAME: PROCID

PROGRAM ADDRESS BLOCKS: 010000 /ABSOLUTE/ SIZE=000000 (ABS)  
167400 /SYSIVR/ SIZE=000400 (ABS)  
170000 /SYSROM/ SIZE=000047 (ABS)  
000000 /PID/ SIZE=001000 (REL)

EXTERNAL REFERENCES (UNDEFINED SYMBOLS):

UDPOP	SLC	RETCC	AP4	INCX	LD6	RETURN	INFO	BFAC	SRC	INCP	INCPA
BETA	BT	SIR0	DECX	DS	ALPHA	BFSB	SRE	DECP	DECPA	DI	BCP
CCS	NOJ	DL	EI	PUSHI	BP	REGS	DLHL	POP	MIN	SIRX	STKS
SC	PUSH	MOUT	BRL	BFS	STL	JUMPC	INPUT	CALLCC	PIN	JUMP	PLR
CALL	PSR	EXADR	EXSTAT	EXDATA	EXWRITE	EXCOM1	EXCOM2	EXCOM3	EXCOM4	UDOP	BEEP

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CLICK LODCF SYSTAT APS

AP7 FETCHI LDS LD7 L7S

UNUSED LABELS:

PID JMPTBL

3.

INC PROCINC

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MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
. UNDEFINED UNUSED PORTS, SUBS, & BITS

14.A  
15.A  
16.A

* TYPE	SNAPOPT	X	
	EQU	4	DEFINE VERSION OF MACHINE TO BE ASSEMBLED
	INC	PROC14.PORTASGN	PORT ASSIGNMENT DISPLAY

MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
 . THE PORT ASSIGNMENTS, ORGANIZED BY PORT - SUBPORT NUMBER IN IN/OUT PAIRS

3.H  
 4.H  
 5.H  
 6.H  
 7.H  
 8.H  
 9.H  
 10.H  
 11.H  
 12.H  
 13.H  
 14.H  
 15.H  
 16.H  
 17.H  
 18.H  
 19.H  
 20.H  
 21.H  
 22.H  
 23.H  
 24.H  
 25.H  
 26.H  
 27.H  
 28.H  
 29.H  
 30.H  
 31.H  
 32.H  
 33.H  
 34.H  
 35.H  
 36.H  
 37.H  
 38.H  
 39.H  
 40.H  
 41.H  
 42.H  
 43.H  
 44.H  
 45.H  
 46.H  
 47.H  
 48.H  
 49.H  
 50.H  
 51.H

```

*
.PORT
. SUB 0 1 2 3 4 5 6 7
. 0 0 LIREG LIMP BASW MODW STW LUF LUCF
. 0 I MODIN INBUS MIFIN SDLCIN ACUIN
. 0 0 IIMP DIMP COMF CHUF IMAR DMAR
. 10 I
. 1 0 OTBUS MDW LSPKR SDLCOT ACUOT SDLCMD MIFADR MIFDAT
. 0 I SRVREQ STATUS IDCODL IDCODH UCFLG MDR STEK
. 1 0 MIFSTB MIFIAK MIFSTB2 SINS SIOD CSRF CSTF SOTS
. 10 I
. 2 0 LDCH LDMAP SKCH SDLM KBSC RDLM CMPF SMR
. 0 I KBDD SNID
. 3 0 URFO
. I
. 4 0 URO (MR2XXL)
. I MARIL
. 5 0 URO (MR2XXH)
. I MARIH
. 6 0 MAROL (XX2MRL)
. I URI
. 7 0 MAROH (XX2MRH)
. I URI
.
. USER IO PORTS 4-7
. REGS 0 URA URB URC URD URE URH URL URX
. 10 PCH PCL SPH SPL PSW I35 I02 IMP
*
.SUBITS 0 1 2 3 4 5 6 7
.
.SRVREQ: SCPMEM SCMBUS SCSDLCR SCSDLCT SCDSPNL SCONMS SCHUMS
.
.STATUS: STUSCF STIODR STPFIN STPFOU STKBKC STKBNS STKBRDY STBOTLN
.
.MODW: SWINTE SWBASD SWUSER SWSTDT SWRPT SWALBT
.
.STEK: STLA STLW STLSP
.

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MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
 . THE PORT ASSIGNMENTS, ORGANIZED BY PORT - SUBPORT NUMBER IN IN/OUT PAIRS

52.H  
 53.H  
 54.H  
 55.H  
 56.H  
 57.H  
 58.H  
 59.H  
 60.H  
 61.H  
 62.H  
 63.H  
 64.H  
 65.H  
 66.H  
 17.A  
 1.I 000002  
 2.I 000014  
 3.I  
 4.I 000004  
 5.I  
 6.I  
 7.I  
 8.I  
 9.I  
 10.I  
 11.I

\*  
 . JUMP INPUT CONDITION CODES ARE:  
 .  
 .SELECT 0 1 2 3 4 5 6 7  
 .  
 . CARRY ZERO MEMRDY PARITY IMPZERO IMPODD BUSRDY TRUE  
 .  
 \*  
 . DOUBLY NAMED (SUB)PORTS ARE:  
 .  
 . URO <> MR2XXL  
 . URO <> MR2XXH  
 . MAROL <> XX2MRL  
 . MAROH <> XX2MRH  
 .  
 . INC PROC14.PROCP4 INDIRECT TO PARAMETER FILE  
 VER EQU 2 1800 - INFO INSTRUCTION PROCESSOR NUMBER  
 REV EQU 014 INFO INST. MICRO-CODE REVISION NUMBER  
 .  
 TYPE EQU 4 =0 FOR 1800 PROCESSOR (DISK, ICA)  
 . =1 FOR 1871 PROCESSOR (DISK, ICA, APF/AML)  
 . =2 FOR 3800 PROCESSOR (ICA)  
 . =3 FOR 3802 PROCESSOR (RIM)  
 . =4 FOR 38MP PROCESSOR (IMA)  
 \*  
 .  
 \* SNAPOPT X

14.I	*			
15.I	•	CONDITION CODES		
16.I	•			
17.I 020002	MO	EQU	F6+2	MEMORY READY
18.I 020003	MP	EQU	F6+3	MEMORY FAILURE (OF ANY SORT!)
19.I 020004	IZ	EQU	F6+4	IMPLICIT REGISTER ZERO
20.I 020005	IO	EQU	F6+5	IMPLICIT REGISTER ODD
21.I 020006	BR	EQU	F6+6	BUS READY (MICRO-BUS ONLY)
22.I	*			
23.I	•	REGISTER ALLOCATION		
24.I	•			
25.I 010002	Q	EQU	F5+02	NOBODY SHOULD DO WRITE'S TO Q
26.I	•			
27.I 010000	PDLNP	EQU	F5+0	DISPLAY LINE POINTER
28.I 010001	KBSCNT	EQU	F5+01	KEYBOARD SCAN COUNTER
29.I 010002	SCANSV	EQU	F5+02	KEYBOARD SAVED SCAN NUMBER, REPEATED AI
30.I	*			
31.I	•	DISKETTE CONTROL REGISTERS		
32.I	•			
33.I 010003	MADR	EQU	F5+03	DISKETTE DEVICE ADDRESS
34.I 010004	MBITS	EQU	F5+04	DISKETTE I/O CONTROL, FUNCTION & STATUS
35.I 010005	MBSTAT	EQU	F5+05	DISKETTE STATE CONTROL LINK REGISTER
36.I 010006	MCRCH	EQU	F5+06	DISKETTE CRC GENERATOR STORAGE REG.
37.I 010007	MCRCL	EQU	F5+07	DISKETTE CRC GENERATOR STORAGE REG.
38.I 010010	MDSKS	EQU	F5+010	DISKETTE HEADER READ SECTOR NUMBER
39.I 010011	MDSKT	EQU	F5+011	DISKETTE HEADER READ TRACK NUMBER
40.I 010012	MTRAK	EQU	F5+012	DISKETTE USER DESIRED TRACK NUMBER
41.I 010013	MSECT	EQU	F5+013	DISKETTE USER DESIRED SECTOR NUMBER
42.I	•			* APF VERSION ABOVE 2 BYTES IN MEMORY *
43.I	*			
44.I	•	HONEYWELL-APF DMA CHANNEL CONTROL REGISTERS		
45.I	•			
46.I 010013	APFRP	EQU	F5+013	APF RECEIVER POINTER LSB
47.I 010014	APFRK	EQU	F5+014	APF RECEIVER COUNTER LSB
48.I 010015	APFTP	EQU	F5+015	APF TRANSMITTER POINTER LSB
49.I 010016	APFTK	EQU	F5+016	APF TRANSMITTER COUNTER LSB
50.I	*			
51.I	•	AUDIO CHANNEL CONTROL REGISTER		
52.I	•			
53.I 010015	ACD	EQU	F5+015	AUDIO CHANNEL ATTEN/VALUE
54.I 010016	ACPL	EQU	F5+016	
55.I 010017	ACPH	EQU	F5+017	AUDIO CHANNEL CONTROL & MSB POINTER
56.I 010017	ACCTL	EQU	ACPH	APF - AUDIO CHANNEL 1 BYTE CONTROL
57.I	•			(ACPH & ACCTL SHOULD BE SAME REG.)

MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
 . EXTENDED CONDITIONS, AND SYSTEM REGISTER DEFINITIONS

58.I				
59.I				
60.I				
61.I	030000			
62.I	030001			
63.I	030002			
64.I	030001			
65.I	030002			
66.I				
67.I				
68.I				
69.I	030003			
70.I	030004			
71.I	030005			
72.I	030006			
73.I	030007			
74.I	030010			
75.I	030011			
76.I	030012			
77.I	030013			
78.I	030014			
79.I	030015			
80.I	030016			
81.I	030017			
82.I				
83.I				
84.I				
85.I				
86.I	010013			
87.I	030003			
88.I	030004			
89.I	030005			
90.I	030006			
91.I	030007			
92.I	030010			
93.I	010014			
94.I	030012			
95.I	030013			
96.I	030014			
97.I	030015			
98.I	030016			
99.I	030017			

  

* . TEMPORARIES - AVAILABLE IN ANY ROUTINE, LOST BETWEEN ROUTINES				
LINK	EQU	F5+F6+00	SUBROUTINE CALL AND RETURN LINKAGE REGS	
TEMP1	EQU	F5+F6+01	PROCESSOR EMULATION TEMPORARIES	
TEMP2	EQU	F5+F6+02		
TEMPH	EQU	TEMP1	H & L ONLY FOR DOUBLE H/L MACROS	
TEMPL	EQU	TEMP2		
* . COMMUNICATIONS CHANNEL CONTROL REGISTERS				
RSTAT	EQU	F5+F6+03	COM RECEIVER STATUS	
RPNTR	EQU	F5+F6+04	COM RECEIVER MEMORY POINTER	
RDATA	EQU	F5+F6+05	COM RECEIVER DATA	
KCRCH	EQU	F5+F6+06	COM RECEIVER CRC GENERATOR STORAGE AREA	
RCRCL	EQU	F5+F6+07	COM RECEIVER CRC GENERATOR STORAGE AREA	
UXPNTR	EQU	F5+F6+010	USER TRANSMIT BUFFER POINTER	
COMMODE	EQU	F5+F6+011	COMMUNICATION MODE CONTROL REGISTER	
URPNTR	EQU	F5+F6+012	USER RECEIVE BUFFER POINTER	
XSTAT	EQU	F5+F6+013	COM TRANSMITTER STATUS	
XPNTR	EQU	F5+F6+014	COM TRANSMITTER MEMORY POINTER	
XDATA	EQU	F5+F6+015	COM TRANSMITTER DATA	
XCRCH	EQU	F5+F6+016	COM TRANSMITTER CRC GENERATOR STORAGE	
XCRCL	EQU	F5+F6+017	COM TRANSMITTER CRC GENERATOR STORAGE	
* . INTERNAL MULTI-PORT ADAPTER CONTROL REGISTER				
.COMMODE	EQU	F5+F6+011!!!	COMMUNICATIONS MODE	
TRNFCN	EQU	F5+013	TX CONTROL LINE SHADOW	
TRNCHN	EQU	F5+F6+03	TRANSMITTING CHANNEL NUMBER	
TRNDTA	EQU	F5+F6+04	TRANSMITTING CHANNEL DATA	
TRNCTL	EQU	F5+F6+05	TRANSMITTING CHANNEL CONTROL	
TRNSEL	EQU	F5+F6+06	TRANSMITTING CHANNEL SELECTION	
RCVCTL	EQU	F5+F6+07	RECEIVER CONTROL REGISTER	
RCH0C	EQU	F5+F6+010		
RCH0D	EQU	F5+014	SWAP OUT WITH COMMODE	
RCH1C	EQU	F5+F6+012		
RCH1D	EQU	F5+F6+013		
RCH2C	EQU	F5+F6+014	RECEIVER CHANNEL & DATA REGISTERS	
RCH2D	EQU	F5+F6+015		
RCH3C	EQU	F5+F6+016		
RCH3D	EQU	F5+F6+017		



```

100.I
101.I
102.I
103.I
104.I
105.I
106.I
107.I
108.I
109.I
110.I
111.I
112.I
113.I
114.I
115.I 000000
116.I 000002
117.I 000000
118.I 000000
119.I 000000
120.I 000000
121.I 000100
122.I 000000
123.I
124.I
125.I 000102
126.I
127.I
128.I
129.I 000000
130.I 002000
131.I 004000
132.I 006000
133.I 007000
134.I
135.I 000000
18.A 000111
19.A
D 20.A 000000
21.A
4.

```

```

*
. CAPABILITY BITS:
. THESE BITS DEFINE THE VERSION OF THE 1800/3800 PROCESSOR THAT THIS IS FOR
.
. XX XXX XXX
. 0 --- MICRO I/O BUS AVAILABLE
. 1 ---- 1500 SINGLE DENSITY DISKETTE DRIVE AVAILABLE
. 2 ----- 1800 SINGLE/DOUBLE DISKETTE DRIVE AVAILABLE
. 3 ----- APF SPECIAL MICRO-BUS INTERFACE AVAILABLE
. 4 ----- INTERNAL MULTIPORT ADAPTER AVAILABLE
. 5 ----- INBOARD RIM AVAILABLE
. 6 ----- 5500 I/O BUS AVAILABLE
. 7 ----- COMMUNICATIONS INTERFACE AVAILABLE (ASYNCR, BISYNCR, & SDLC)
.
. *PROCESSOR*
CAPMICR EQU 0<0 1800 1871 3800 3802 38MP
CAPIMA EQU 1<1 YES YES YES
CAPBLUE EQU 0<2 YES YES YES
CAPAPF EQU 0<3 YES YES YES
CAPDMP10 EQU 0<4 YES YES YES
CAPRIM EQU 0<5 YES YES YES
CAP5510 EQU 1<6 YES YES YES
CAPCOM EQU 0<7 YES YES YES
. *TYPE*
CAPABILI EQU CAPCOM+CAP5510+CAPRIM+CAPDMP10+CAPAPF+CAPBLUE+CAPIMA+CAPMICR
*
. LOCATION OF THE CODE IN ROMS IS A FOLLOWS (MSB & LSB OF COURSE)
.
PROC EQU 00<9 EMULATION SUPPORT CODE IN ROMS 0 & 1
PROD EQU 02<9 EMULATION SUPPORT CODE IN ROMS 2 & 3
FLEX EQU 04<9 MICRO-BUS CODE IN ROMS 4 & 5
CDOX EQU 06<9 COMM TRANSMIT CODE IN ROM 6
CDOR EQU 07<9 COMM RECEIVE CODE IN ROM 7
.
CAPIVS EQU 0
PRE EQU '1' RELEASE LEVEL (FINAL IS BINARY ZERO)
*
CAPIVS EQU 0 INVERTED DISPLAY SCREEN VERSION **NEW**
* 0 = NORMAL, 1 = INVERTED (PURE RASTER!)
. 2.14.I HJS 2 APR 80 UPDATE TO ALL (0..4) VERSIONS OF MACHINE

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MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
 . EXTENDED CONDITIONS, AND SYSTEM REGISTER DEFINITIONS

5.	*				
6.	. 2.13.B	HJS	7 FEB	79	ALLOW COMM ON 3800'S (AFTER V13)
7.	*				
8.	. 2.12.C	HJS	13 OCT	78	DELETE CHECKING OF CORRECT VERSION/REV
9.	*				
10.	. 2.9.K	HJS	18 APR	78	CHANGE FOR RELOCATABLE LINK & CORRECT LODCF NAME
11.	. 2.9.J	HJS	20 MAR	78	SETUP FOR 1800/3800 DIFFERENCES
12.	. 2.9.A	HJS	14 NOV	77	ADD NEW SYSTAT INSTRUCTION
13.	*				
14.	. 2.8.A	HJS	16 SEP	77	DUE TO UPDATE OF OTHER FILES
15.	*				
16.	. 2.7.	HJS	7 SEP	77	FINAL ADDRESSING SETUP FOR RELEASE
17.	*				
18.	. 2.5.C	HJS	18 AUG	77	CHANGE /EPT FILE FOR VERSION CONTROL
19.	. 2.5.A	HJS	13 JULY	77	BRING UP TO VRP FORMAT FOR THE FILE
20.	*				
21.	PID	ORG		0	
22.	PID	USE		PID	

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MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
 . EMULATOR JUMP TABLE FOR 1800/3800 AND ALL VARIATIONS.

25. 000000  
 26. >000000 000 000  
 27. >000002 000 000  
 28. >000004 000 000  
 29. >000006 000 000  
 30. >000010 000 000  
 31. >000012 000 000  
 32. >000014 000 000  
 33. >000016 000 000  
 34.  
 35. >000020 000 000  
 36. >000022 000 000  
 37. >000024 000 000  
 38. >000026 000 000  
 39. >000030 000 000  
 40. >000032 000 000  
 41. >000034 000 000  
 42. >000036 000 000  
 43.  
 44. >000040 000 000  
 45. >000042 000 000  
 46. >000044 000 000  
 47. >000046 000 000  
 48. >000050 000 000  
 49. >000052 000 000  
 50. >000054 000 000  
 51. >000056 000 000  
 52.  
 53. >000060 000 000  
 54. >000062 000 000  
 55. >000064 000 000  
 56. >000066 000 000  
 57. >000070 000 000  
 58. >000072 000 000  
 59. >000074 000 000  
 60. >000076 000 000

JMPTBL

DA	*UDPOP	000 HALT
DA	*UDPOP	001 HALT
DA	*SLC	002 SHIFT LEFT
DA	*RETCC	003 RFC
DA	*AP4	004 IMM ADD
DA	*INCX	005 INCREMENT INDEX <RP> OR MEM
DA	*LD6	006 IMM LA
DA	*RETURN	007 SUBROUTINE RETURN
*		
DA	*INFO	010 INFORMATION PLEASE
DA	*BFAC	011 BINARY FIELD ADD
DA	*SRC	012 SHIFT RIGHT
DA	*RETCC	013 RFZ
DA	*AP4	014 IMM ADD WITH CARRY
DA	*INCP	015 INCR REG PAIR (BY 1 OR 2)
DA	*LD6	016 IMM LB
DA	*INCPA	017 INCR REG PAIR BY REG A
*		
DA	*BETA	020 SWITCH MODES
DA	*BT	021 BLOCK TRANSFER & TRANSLATE
DA	*SIRO	022 SELECT XA PAIR
DA	*RETCC	023 RFS
DA	*AP4	024 IMM SUB
DA	*DECX	025 DECREMENT INDEX <RP> OR MEM
DA	*LD6	026 IMM LC
DA	*DS	027 DOUBLE STORE
*		
DA	*ALPHA	030 SWITCH MODES
DA	*BFSB	031 BINARY FIELD SUBTRACT
DA	*SRE	032 SHIFT RIGHT EXTENDED
DA	*RETCC	033 RFP
DA	*AP4	034 IMM SUB WITH CARRY
DA	*DECP	035 DECCR REG PAIR
DA	*LD6	036 IMM LD
DA	*DECPA	037 DECR PAIR USING A

61.					
62.	>000100	000	000	+	DA *DI 040 DISABLE INTERRUPTS
63.	>000102	000	000		DA *BCP 041 BLOCK COMPARE, DECIMAL FIELD ADD & SUBTRACT
64.	>000104	000	000		DA *CCS 042 CONDITION CODE SAVE
65.	>000106	000	000		DA *RETCC 043 RTC
66.	>000110	000	000		DA *AP4 044 IMM AND
67.	>000112	000	000		DA *NOJ 045 NON-JUMP NO-OP
68.	>000114	000	000		DA *LD6 046 IMM LE
69.	>000116	000	000		DA *DL 047 DOUBLE LOAD
70.				*	
71.	>000120	000	000		DA *EI 050 ENABLE INTERRUPTS, AND JUMP & RETURN
72.	>000122	000	000		DA *PUSHI 051 PUSH IMMEDIATE
73.	>000124	000	000		DA *BP 052 BREAKPOINT
74.	>000126	000	000		DA *RETCC 053 RTZ
75.	>000130	000	000		DA *AP4 054 IMM EXCLUSIVE OR
76.	>000132	000	000		DA *REGS 055 REGISTER SAVE & LOAD
77.	>000134	000	000		DA *LD6 056 IMM LH
78.	>000136	000	000		DA *DLHL 057 DOUBLE LOAD HL USING (HL)
79.				*	
80.	>000140	000	000		DA *POP 060 POP FROM STACK
81.	>000142	000	000		DA *MIN 061 MULTIPLE INPUT
82.	>000144	000	000		DA *SIRX 062 SELECT C OR BC PAIR
83.	>000146	000	000		DA *RETCC 063 RTS
84.	>000150	000	000		DA *AP4 064 IMM INCLUSIVE OR
85.	>000152	000	000		DA *STKS 065 STACK SAVE, LOAD & MOVE
86.	>000154	000	000		DA *LD6 066 IMM LL
87.	>000156	000	000		DA *SC 067 SYSTEM CALL
88.				*	
89.	>000160	000	000		DA *PUSH 070 PUSH FROM STACK
90.	>000162	000	000		DA *MOUT 071 MULTIPLE OUTPUT
91.	>000164	000	000		DA *BRL 072 BASE REGISTER LOAD
92.	>000166	000	000		DA *RETCC 073 RTP
93.	>000170	000	000		DA *AP4 074 IMM COMPARE
94.	>000172	000	000		DA *BFS 075 BINARY FIELD SHIFT LEFT & RIGHT
95.	>000174	000	000		DA *LD6 076 IMM LX
96.	>000176	000	000		DA *STL 077 SECTOR TABLE LOAD

+	DA	*JUMPC	100 JFC
	DA	*INPUT	101 INPUT FROM 5500 I/O BUS
	DA	*CALLCC	102 CFC, USER MODE RETURN (102-172 BY 10'S)
	DA	*PIN	103 PARITY CHECKING INPUT
	DA	*JUMP	104 JUMP UNCONDITIONAL
	DA	*PLR	105 PL A,
	DA	*CALL	106 CALL UNCONDITIONAL
	DA	*PSR	107 PS A,
*			
	DA	*JUMPC	110 JFZ
	DA	*SIRX	111 SELECT B
	DA	*CALLCC	112 CFZ
	DA	*SIRX	113 SELECT D
	DA	*PLR	114 PL B,
	DA	*SIRX	115 SELECT H
	DA	*PSR	116 PS B,
	DA	*SIRX	117 SELECT X
*			
	DA	*JUMPC	120 JFS
	DA	*EXADR	121 EX ADR
	DA	*CALLCC	122 CFS
	DA	*EXSTAT	123 EX STATUS
	DA	*PLR	124 PL C, & DPL BC,
	DA	*EXDATA	125 EX DATA
	DA	*PSR	126 PS C, & DPS BC,
	DA	*EXWRITE	127 EX WRITE
*			
	DA	*JUMPC	130 JFP
	DA	*EXCOM1	131 EX COM1
	DA	*CALLCC	132 CFP
	DA	*EXCOM2	133 EX COM2
	DA	*PLR	134 PL D,
	DA	*EXCOM3	135 EX COM3
	DA	*PSR	136 PS D,
	DA	*EXCOM4	137 EX COM4

DATAPOINT CONFIDENTIAL INFORMATION - SEE PAGE 1

PAGE 14 PROC14/LIB:DR0.PROCID

MICRO-PROCESSOR INSTRUCTION DECODE ROM - HJS - 07AUG82 15:52  
 . EMULATOR JUMP TABLE FOR 1800/3800 AND ALL VARIATIONS.

133.  
 134. >000300 000 000  
 135.  
 141.  
 142.  
 148.  
 149.  
 150. >000302 000 000  
 151. >000304 000 000  
 152. >000306 000 000  
 153. >000310 000 000  
 154. >000312 000 000  
 155.  
 156. >000314 000 000  
 157.  
 159.  
 160.  
 162.  
 163.  
 164. >000316 000 000  
 165.  
 166.  
 167. >000320 000 000  
 168. >000322 000 000  
 169. >000324 000 000  
 170. >000326 000 000  
 171. >000330 000 000  
 172. >000332 000 000  
 173. >000334 000 000  
 174. >000336 000 000  
 175.  
 176. >000340 000 000  
 177.  
 185.  
 186.  
 187. >000342 000 000  
 188. >000344 000 000  
 189. >000346 000 000  
 190. >000350 000 000  
 191. >000352 000 000  
 192. >000354 000 000  
 193. >000356 000 000  
 194.

+	DA	*JUMPCC	140 JTC
	IFS	CAPMICR	** DISKETTE - 1800, 1871 **
	XIF		
	IFS	CAPDMPIO	** DMP BUS INTERFACE - 3802 **
	XIF		
	IFC	CAPMICR+CAPDMPIO	** NON-DISKETTE - 3800 & 38MP **
	DA	*UDOP	141 FXIO - FLOPPY SUBSYSTEM INSTRUCTIONS
	DA	*CALLCC	142 CTC
	DA	*UDOP	143 EXSTAT - FLOPPY SUBSYSTEM STATUS
	DA	*PLR	144 PL E, & DPL DE,
	DA	*UDOP	145 MXIO - MICRO-BUS INTERFACE INSTRUCTIONS
	XIF		
	DA	*PSR	146 PS E, & DPS DE,
	IFS	CAPAPF	** HONEYWELL - 1871 **
	XIF		
	IFS	CAPDMPIO	** DMP BUS INTERFACE - 3802 **
	XIF		
	IFC	CAPAPF+CAPDMPIO	
	DA	*UDOP	147 DECK I/O
	XIF		
*	DA	*JUMPCC	150 JTZ
	DA	*BEEP	151 EX BEEP
	DA	*CALLCC	152 CTZ
	DA	*CLICK	153 EX CLICK
	DA	*PLR	154 PL E,
	DA	*LODCF	155 LOAD CHARACTER FONT - EX DECK1
	DA	*PSR	156 PS E,
	DA	*SYSTAT	157 SYSTEM STATUS
*	DA	*JUMPCC	160 JTS
	IFS	CAPCOM	** ICA - 1800, 1871, 3800 **
	XIF		
	IFC	CAPCOM	** NON-ICA - 3802, 38MP **
	DA	*UDOP	161 MODEM-ACU CONTROL-STATUS I/O
	DA	*CALLCC	162 CTS
	DA	*UDOP	163 INPUT BY UNLOADING RECEIVE BUFFER
	DA	*PLR	164 PL L, & DPL HL,
	DA	*UDOP	165 START COMMUNICATIONS
	DA	*PSR	166 PS L, & DPS HL,
	DA	*UDOP	167 OUTPUT TO LOAD TRANSMIT BUFFER
	XIF		

195.  
 196. >000360 000 000  
 197.  
 201.  
 202.  
 203. >000362 000 000  
 204. >000364 000 000  
 205. >000366 000 000  
 206.  
 207. >000370 000 000  
 208. >000372 000 000  
 209. >000374 000 000  
 210.  
 211. >000376 000 000  
 212.  
 213.  
 215.  
 216.

\*

DA \*JUMPC  
 IFS CAPDMP  
 XIF  
 IFC CAPDMP  
 DA \*UDOP  
 DA \*CALLC  
 DA \*UDOP  
 XIF  
 DA \*SIRX  
 DA \*UDOP  
 DA \*SIRX  
 IFC CAPAPF  
 DA \*UDOP  
 XIF  
 IFS CAPAPF  
 XIF

170 JTP  
 \*\* DMP-BUS - 3802 \*\*  
 \*\* DMP-BUS - 3802 \*\*  
 171 EX SF  
 172 CTP  
 173 EX SB  
 174 SELECT E OR DE PAIR  
 175 EX REWIND  
 176 SELECT L  
 177 EX TSTOP

```

219.
220. .MACRO.
221. .MACRO.
222. .MACRO.
223. .MACRO.
224. .MACRO.
225. .MACRO.
226. .MACRO.
227. .MACRO.
228. .MACRO.
229. .MACRO.
230. .MACRO.
231. .MACRO.
232. .MACRO.
233.
234.
235. >000400 000 000 000 000 000
      >000405 000 000 000 000 000
      >000412 000 000 000 000 000
      >000417 000
235. >000420 000 000 000 000 000
      >000425 000 000 000 000 000
      >000432 000 000 000 000 000
      >000437 000
235. >000440 000 000 000 000 000
      >000445 000 000 000 000 000
      >000452 000 000 000 000 000
      >000457 000
235. >000460 000 000 000 000 000
      >000465 000 000 000 000 000
      >000472 000 000 000 000 000
      >000477 000
235. >000500 000 000 000 000 000
      >000505 000 000 000 000 000
      >000512 000 000 000 000 000
      >000517 000
235. >000520 000 000 000 000 000
      >000525 000 000 000 000 000
      >000532 000 000 000 000 000
      >000537 000
235. >000540 000 000 000 000 000
      >000545 000 000 000 000 000
      >000552 000 000 000 000 000
      >000557 000
235. >000560 000 000 000 000 000
      >000565 000 000 000 000 000
      >000572 000 000 000 000 000
      >000577 000

```

\*  
MACRO  
SEVP1 NAM,A,B,NUM(7),N2  
RPT NUM  
DA \*NAM1A  
MIFS N2  
DA \*FETCH1  
RPT N2  
DA \*NAM1A  
MXIF  
MIFS B  
DA \*NAM1B  
MXIF  
MEND

\*  
RPT 8 2XX ARITH'S  
SEVP1 AP,S,7



Address	Op Code	Op Name	Op Description	Op Length	Op Cycle	Op Comment
236.	>000600	000 000				
237.	>000602	000 000 000 000 000	DA	*FETChI	300	NO-OP
238.	>000607	000 000 000 000 000	SEVP1	LD,S,7,6	30X	
	>000614	000 000 000 000				
239.	>000620	000 000 000 000 000	SEVP1	LD,S,7,1,5	31X	
	>000625	000 000 000 000 000				
	>000632	000 000 000 000 000				
	>000637	000				
240.	>000640	000 000 000 000 000	SEVP1	LD,S,7,2,4	32X	
	>000645	000 000 000 000 000				
	>000652	000 000 000 000 000				
	>000657	000				
241.	>000660	000 000 000 000 000	SEVP1	LD,S,7,3,3	33X	
	>000665	000 000 000 000 000				
	>000672	000 000 000 000 000				
	>000677	000				
242.	>000700	000 000 000 000 000	SEVP1	LD,S,7,4,2	34X	
	>000705	000 000 000 000 000				
	>000712	000 000 000 000 000				
	>000717	000				
243.	>000720	000 000 000 000 000	SEVP1	LD,S,7,5,1	35X	
	>000725	000 000 000 000 000				
	>000732	000 000 000 000 000				
	>000737	000				
244.	>000740	000 000 000 000 000	SEVP1	LD,S,,6	36X	
	>000745	000 000 000 000 000				
	>000752	000 000				
245.	>000754	000 000	DA	*FETChI	366	NO-OP
246.	>000756	000 000	DA	*LD7	367	LLM
247.	>000760	000 000 000 000 000	SEVP1	L7,S	37X	
	>000765	000 000 000 000 000				
	>000772	000 000 000 000				
248.	>000776	000 000	DA	*UDPOP	377	HALT!
249.			END			

\*\*\* ERRORS: D

010017	ACCTL	*56:I							
010015	ACD	*53:I							
010017	ACPH	*55:I	56:I						
010016	ACPL	*54:I							
	ALPHA	53							
	AP4	30	39	48	57	66	75	84	93
	AP7	235							
010014	APFRK	*47:I							
010013	APFRP	*46:I							
010016	APFTK	*49:I							
010015	APFTP	*48:I							
	APS	235							
	BCP	63							
	BEEP	168							
	BETA	44							
	BFAC	36							
	BFS	94							
	BFSB	54							
	BP	73							
020006	BR	*21:I							
	BRL	91							
	BT	45							
	CALL	104							
	CALLCC	100	109	118	127	151	169	188	204
000100	CAP55IO	*121:I	125:I						
000102	CAPABILI	*125:I							
000000	CAPAPF	*118:I	125:I	157	163	210	213		
000000	CAPBLUE	*117:I	125:I						
000000	CAPCOM	*122:I	125:I	177	186				
000000	CAPDMP10	*119:I	125:I	142	149	160	163	197	202
000002	CAPIMA	*116:I	125:I						
000000	CAPIVS	*135:I	*20:A						
000000	CAPMICR	*115:I	125:I	135	149				
000000	CAPRIM	*120:I	125:I						
	CCS	64							
007000	CDOR	*133:I							
006000	CDOX	*132:I							
	CLICK	170							
030011	COMMODE	*75:I							
	DECP	58							
	DECPA	60							
	DECX	49							
	DI	62							
	DL	69							
	DLHL	78							
	DS	51							
	EI	71							
	EXADR	117							
	EXCOM1	126							
	EXCOM2	128							
	EXCOM3	130							
	EXCOM4	132							

	EXDATA	121						
	EXSTAT	119						
	EXWRITE	123						
	FETCHI	237	239	240	241	242	243	245
004000	FLEX	*131:I						
	INCP	40						
	INCPA	42						
	INCX	31						
	INFO	35						
	INPUT	99						
020005	IO	*20:I						
020004	IZ	*19:I						
000000	JMPTBL	*25						
	JUMP	102						
	JUMPC	98	107	116	125	134	167	176
010001	KBSCNT	*28:I						
	L7S	247						
	LD6	32	41	50	59	68	77	86
	LD7	238	239	240	241	242	243	246
	LDS	238	239	240	241	242	243	244
030000	LINK	*61:I						
	LODCF	172						
010003	MADR	*33:I						
010004	MBITS	*34:I						
010005	MBSTAT	*35:I						
010006	MCRCH	*36:I						
010007	MCRCL	*37:I						
010010	MDSKS	*38:I						
010011	MDSKT	*39:I						
	MIN	81						
020002	MO	*17:I						
	MOUT	90						
020003	MP	*18:I						
010013	MSECT	*41:I						
010012	MTRAK	*40:I						
	NOJ	67						
010000	PDLNP	*27:I						
000000	PID	*22						
	PIN	101						
	PLR	103	111	120	129	153	171	190
	POP	80						
000111	PRE	*18:A						
000000	PROC	*129:I						
002000	PROD	*130:I						
	PSR	105	113	122	131	156	173	192
	PUSH	89						
	PUSHI	72						
010002	Q	*25:I						
030010	RCHOC	*92:I						
010014	RCHOD	*93:I						
030012	RCHIC	*94:I						
030013	RCHID	*95:I						

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